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when totally eclipsed. This was so great that with the means at my disposal I found it impossible to observe the occultations of the fainter stars in the Pulkowa list.

The instants of disappearance and reappearance were recorded by means of a Bond's spring-governor chronograph, which records automatically every two seconds the time shown by the sidereal standard. The error of the latter was determined on the same evening by a series of transit observations recorded in a similar manner.

As seen from this observatory the total eclipse of the Moon of 1884, October 4, was much darker than that of 1888, January 28.

No. in Pulkowa List.	Mag.	Phenomenon.	Time by Sidereal Standard.	Local Sidereal Time.	Greenwich Mean Time of Observation.	
			h m s	h m s	h m s	
153	10	Disappearance	6 49 1·2	6 49 51·97	10 31 38·83	(*a*)
157	9·4	,,	6 53 8·0	6 53 58·77	10 35 44·95	
164	8·0	,,	6 53 35·8	6 54 26·57	10 36 12·67	
166	9·5	,,	6 53 46·7	6 54 37·47	10 36 23·55	
165	9·4	,,	6 54 49·2	6 55 39·97	10 37 25·87	
180	9·5	,,	7 6 55·4	7 7 46·18	10 49 30·10	(*b*)
190?	11	,,	7 42 23·4	7 43 14·19	11 24 52·30	(*c*)
157	9·4	Reappearance	7 44 36·8	7 45 27·59	11 27 5·34	
166	9·5	,,	8 4 23·6	8 5 14·40	11 46 48·91	
164	8·0	,,	8 7 30·4	8 8 21·20	11 49 55·20	
165	9·4	,,	8 8 4·0	8 8 54·80	11 50 28·70	(*d*)

Notes.

(*a*) Star faint. (*b*) Disappeared at $7^h\ 6^m\ 49^s{\cdot}6$, but reappeared about two seconds later, and finally disappeared at $55^s{\cdot}4$. (*c*) Star very faint; observation doubtful. (*d*) About one second late.

Power used, 90. The longitude $12^m\ 17^s{\cdot}15$ W. has been used in converting Bidston mean solar time into Greenwich mean solar time.

Observations of Occultations of Stars made at the Radcliffe Observatory, Oxford, during the Total Lunar Eclipse of 1888, *January* 28.

(*Communicated by E. J. Stone, M.A., F.R.S., Radcliffe Observer.*)

The following occultations were observed under rather unfavourable atmospheric circumstances, the sky becoming hazy and cloudy.

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No. in Pulkowa List.	Mag. from List.	Phenom.	Time noted.	G.M.T. of Observation.	Observer.	Ref. to Notes.
			h m s	h m s		
...	(10)	Disapp.	6 41 21·2	10 15 50·3	W.	(*a*)
148	10	”	6 47 11·3	10 21 39·4	W.	(*b*)
157	9·4	”	6 57 53·8	10 32 20·2	W.	
		”	6 58 42·	20·5	R.	(*c*)
		”	10 32 41·	18·4	F. B.	
164	8·0	”	7 3 44·3	10 38 9·7	W.	
		”	7 4 32·2	9·7	R.	(*d*)
		”	10 38 31·8	9·2	F. B.	
165	9·4	”	7 6 (0·)	10 39 (37·)	R.	(*e*)
		”	10 39 33·	10 39 10·4	F. B.	
180	9·5	”	7 15 55·8	10 50 19·2	W.	
		”	7 16 44·0	19·5	R.	(*f*)
		”	10 50 42·3	19·6	F. B.	(*g*)
126	9·5	Reapp.	7 27 33·5	11 1 55·0	W.	
		”	7 28 16·5	50·1	R.	(*h*)
		”	11 2 12·5	49·8	F. B.	(*i*)
201	8·7	Disapp.	7 51 46·	11 26 3·6	W.	(*j*)
		”	7 52 33·	2·7	R.	(*k*)
		”	11 26 23·8	1·1	F. B.	(*l*)
157	9·4	Reapp.	11 32 45·	11 32 22·2	F. B.	(*m*)

Observer.		Aperture. in.	Power used.
W.	Mr. W. Wickham, Barclay Equatorial .	10	85
R.	” W. H. Robinson, Heliometer . .	7·5	80
F. B.	” F. A. Bellamy, 10-foot Telescope .	7	90

Notes.

(*a*) and (*b*) Faint, cloudy. Both stars about the same angle and magnitude. (*c*) Doubtful to 2^{s}. Faded gradually. (*d*), (*f*), (*g*), and (*i*) Good observations. (*e*) Exceedingly faint. Observation very doubtful. May be 10^{s} in error. Cloudy. (*h*) Fairly good. Reappeared instantaneously. At $11^{h}\ 1^{m}\ 30^{s} \pm$ a meteor of about the 7th star magnitude flashed across Moon from 225° (± 5°) through 75° (± 20°) from North Point. (*i*) Whilst watching for reappearance, saw the meteor referred to by Mr. Robinson. (*j*) A slow disappearance. (*k*) Faint; difficult. (*l*) and (*m*) Hazy cloud.

Radcliffe Observatory, Oxford:
1888, *January* 30.

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Observations of Stars Occulted by the Moon during the Eclipse of 1888, January 28, at the University Observatory, Oxford. Made under the direction of Professor C. Pritchard, D.D., F.R.S.

All due preparations were made for observing the occultations; but the state of the sky was so fitful, and in general so hazy, that very few phenomena could be observed at all, and of those that were attempted probably none is of any value—not even excepting No. 164, where the times of disappearance recorded by the two observers are identical, and the reappearance of No. 136, where the recorded times are fairly close.

Four photographs of the Moon, taken with a 15-inch mirror, were secured before totality, but they possessed the same abortive characteristics as those presented by the star occultations, and from the same causes.

The intention was to photograph the district containing the occultable stars, but up to the present time the sky has presented no favourable opportunity.

Phase	Immersion.		Emersion.	
Instrument	Grubb Refr.	De la Rue Refl.	Grubb Refr.	De la Rue Refl.
Aperture	12½ inches.	13 inches.	12½ inches.	13 inches.
Power	120	80	120	80
Observer	Jenkins	Plummer	Jenkins	Plummer
G.M.T.	h m s	h m s	h m s	h m s
No. 157*	10 31 48·3			
164	10 38 9·1	10 38 9·1		
180	...	10 50 20·5		
136	...	...	10 56 1·2	10 55 59·9
126	...	...	11 1 53·4	11 1 55·4
128	...	...	...	11 4 53·7
*	11 13 58·9			
198	...	11 15 39·6		
201	11 26 2·4	11 26 3·5		

University Observatory, Oxford:
1888, *March* 8.

* Numbers as given in Dr. Döllen's list, dated Pulkova, Dec. 18, 1887.